

CGGGGGAGGCTTAGGATGTTGCTCCGGGCTCAGACGAAATCTTCTGTGAATGGAAG  
AAATGCTTCCAAGCAAACAGCCACTACCAGAACAACTGAGAAAGAGGCCAGAGCGCGAGTTCTC  
AAACCCTGATTTCGCAGGAGCCGGAGGGGATATTGGAGAGAAGGTATTCCAGTCACGCGCAG  
TAACAGACCAGCCAAGGACCAGGACTGGAGTTCTACAACGGTGGAACAGTGAACGGTCT  
CCAAAGAGATGGAGTACGACGCTTACAACGACTCCGGCATCTATGATGATGAGTACTCTGATGG  
CTTGCTACTTGTGGACTTGGAGGAGGCGAGTCCGTGGAGGCCAAGGTGGCCCCGGTCTTC  
CTGGTGGTGTACAGCTGGTGTGCTCCTCGGTCTCAGGCAACGGCCTGGTGTATTGTCA  
TCGCCACCTCAAGATGAAGAACCGTGAACACTGTGTGGTTGTCAACCTGGCTGTGGCCGA  
CTTCCTGTTCAACATCTTTGCCGATGCACATCACCTACGCCATGGACTACCAACTGGGTG  
TTCGGGAAGGCCATGTGCAAGATCAGCAACTCTGCTCAGCCACAACATGTACACCAGCGTCT  
TCCTGCTGACTGTCATCAGCTTGACCGCTGCATCTCCGTGCTGCTCCCCGTCTGGTCCCAGAA  
CCACCGCAGCATTGGCCTACATGACCTGCTCGGCCGTGGCTCTGGCTTCTTCTTG  
AGCTCCCCGTCCCTGTCTTCCGGACACCGCCAACATTGAAAGATAACCTGCTTCAACA  
ACTTCAGCTGGCCGCCTGAGTCCTCCCCACATCCGCCACTCGCAAGTAGTGTACCCAGG  
GTACAGCAGACACGTGGCGGTCACTGTCACCCGCTTGCAGCTGCTGCTGATCCCCGTCTTC  
ATCATCACGGCCTGCTACCTTACCATCGTCTCAAGCTGCAGCGAACCGCCTGGCCAAGAAC  
AGAAGCCCTTCAAGATCATCACCATCATCACCTCTTCTGCTGGTGCCTACCA  
CACCTCTACCTGCTGGAGCTCCACCACACAGCTGCAAGCTCTGTCTCAGCCTGGGGCTA  
CCCCCTGGCCACGGCGTCGCCATGCCAACAGCTGCATGAACCCATTCTGTACGTCTCATGG  
GCCACGACTTCAGAAAATTCAAGGTGCCCTCTCTCCGCCATGCCAACGCCCTGAGTGAGGA  
CACAGGCCCTCCTACCCAGTCACAGGAGCTCACCAAGATGTCGTCTTGAATGAGAAC  
GCTTCGGTGAATGAGAAGGAGACAGTACCCCTGTAACCTCACCTGGGAATGTCCCCAAAGGT  
GCCACGGCCCAGGGACGCCCTAGGGACTTGTCTCCGGAAGTGGGAGACATGCCGGAGCCTTGG  
GAATGCTCCAACGCCACTGAATTTCGCACAAGGCGGCTCATGTTTAAGTGGGTTCCAAGT  
GTGGACACTCTCCAGTAAAATGGCAGGCAAGCAACCCGAGCTTCTACAACAGGAGCAGGGGAC  
CGACTGTGACTGACTCAGAAAAGGGAGCATTCTGAAGCCAAGACTTGAGCTGTGACCAACATA  
CAGGCCAACATACACGATGTCGCCGTGCATGCCCTGAACATGCTGCGCAGTTCTGGTGGTGAG  
GAAGTTACCGCAAACCCATTGCAGACCTGTTATGGCAACATGACAGTCAAACCAACAAAGCCCA  
ATACACCCCAACATCCTCCAAGACCTGACTTGGATTCAGAAGAACGGGGGTGGGGGAAC  
GAGGACCTGAGGGTTAATTGAGCTGGCGAAGCC (SEQ ID NO:1)

**FIGURE 1**

underlined = deleted in targeting construct

[ ] = sequence flanking Neo insert in targeting construct

CCGGGGGAGGCTTAGGATGTTGCTCCGGGGCTCAGACGAAATCTTCTGTGAATG  
GAAGAAATGCTTCAAGCAAACAGCCACTACCAGAACAACTGAGAAAGAGGCCAGAGCGC  
GAGTTCTCAAACCTGATTGAGGAGCCGGAGGGGATATTGGAGAGAAGGTATTCC  
AGTCACGCGAGTAACAGACCAGCCAAGGACCAGGACTGGAGTTCTGTTACAACGGTG  
GAACAGTGAACGGTCTCCAAAG [AGATGGAGTACGACGCTTACAACGACTCCGGCATCTA  
TGATGATGAGTACTCTGATGGCTTGGCTACTTTGTGGACTTGGAGGAGGCAGTCCGTG  
GGAGGCCAAGGTGGCCCCGGTCTCCTGGTGGTGTACAGCTGGTGTGCTCCTCGG  
TC] TCCTAGGCAACGGCTGGTATTGTATGCCACCTCAAGATGAAGAAGACCGTGA  
ACACTGTGTGGTTGTCAACCTGGCTGTGGCCACTCCCTGTTCAACATCTTTGCCGA  
TGCACATCACCTACGCCATGGACTACCACTGGGTG [TTCGGAAGGCCATGTGCAAG  
ATCAGCAACTTCTGCTCAGCCACAACATGTACACCAGCGTCTCCTGCTGACTGTCATC  
AGCTTGACCGCTGCATCTCCGTGCTGCTCCCCGTCTGGTCCCAGAACCGCAGC  
CGCCTGGCCTACATGACCTGCTCGGCCGTGGTCTGGCTTTCTTGAGCTCCCCG  
TCCCTTGCTTCCGGACACGCCAACATTCAATGGGAAGATAACCTGCTCAACA  
AGCTTGGCCGCGCTGAGTCCTCCCCACATCCGCCACTCGCAAGTAGTTCCACAGGG  
TACAGCAGACACGTGGCGGTCACTGTACCCGCTTCCTTGCGGCTTCCTGATCCCCG  
TTCATCATCACGGCTGCTACCTTACCATCGTCTCAAGCTGCAGCGCAACCGC  
AAGAACAAAGAACCCCTCAAGATCATCACCATCATCACCTCTTCTGCTGG  
TGCCCTTACACACCCTTACCTGCTGGAGCTCCACCACAGCTGTGCCAAGCTGT  
TTCAGCCTGGGCTACCCCTGGCACGGCGTCGCCATGCCAACAGCTGCATGAAC  
ATTCTGTACGTCTCATGGGCCACGACTTCAGAAAATTCAAGGTGGCCTTCTCCC  
CTGGCCAACGCCCTGAGTGAGGACACAGGCC] CTCCTCCTACCCAGTCACAGGAGCT  
CACCAAGATGTGTTGAATGAGAACGGCTCGGTGAATGAGAACGGAGACAGTAC  
CTGAACCTCACCTGGAAATGTCCCCAAAGGTGCCACGGCCAGGGACGCC  
GTCTCCGGAAGTGGGAGACATGCCGGAGCCTTGGGAATGCTCCAACGCC  
TTGCACAAGGCAGCTCATGTTTAAGTGGGTTCCAAGTGTGGACACTTCCAGTAAA  
ATGGCAGGCAAGCAACCGAGCTTACAACAGGAGCAGGGGACCGACTGTGACT  
AGAAAAGGGAGCATTCTGAAGCCAAGACTTGAGCTGTGACCAACATA  
CACGATGTGCCGTGCATGCCCTGAACATGCTGCGCAGTTCTGTTGAGGAAGTTAC  
CGCAAACCCATTGCAGACCTGTTATGGCAACATGACAGTCAAACCAAC  
ACCCCAACATCCTCCAAGACCTGACTTGGATTCAAGAACGGGGGTGGGGGAAC  
GAGGACCTGAGGGTAATTGAGCTGGCGAACCC

**FIGURE 2A**

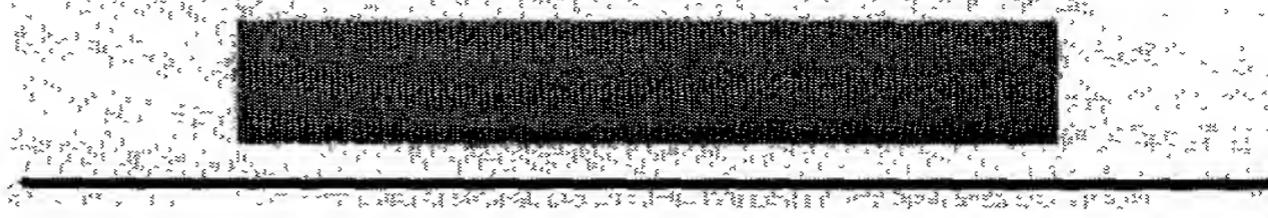
**Gene Sequence Structure**  
\*

422 bp

Sequence Deleted

576 bp

Size of full-length  
cDNA: 1892 bp



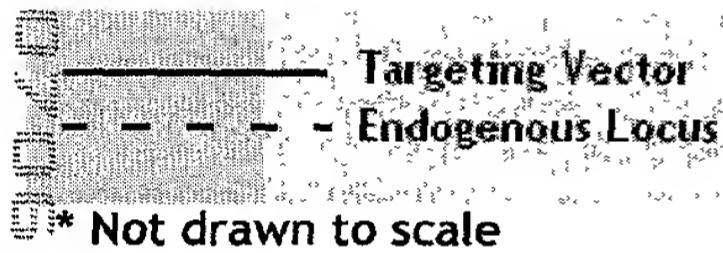
**Targeting Vector\* (genomic sequence)**

Construct Number: 993

**Arm Length:**

5': 2.3 kb

3': 1.9 kb



\* Not drawn to scale

Neo

Cassette

5' arm

3' arm

5' probe

3' probe

5' >CCACAGAGGTCTCAGCCTGT  
GACCCTGTCTTCCCTCACAGAGAT  
GGAGTACGACGCTTACAACGACTC  
CGGCATCTATGATGATGAGTACTC  
TGATGGCTTGGCTACTTGTGGA  
CTTGGAGGAGGCAGTCCGTGGGA  
GGCCAAGGTGGCCCCGGTCTTCCT  
GGTGGTGATCTACAGCTTGGTGTG  
CTTCCTCGGTC<3'  
(SEQ ID NO:2)

5' >TTCGGGAAAGGCCATGTGCAAG  
ATCAGCAACTTCTTGCTCAGCCAC  
AACATGTACACCAGCGTCTTCCTG  
CTGACTGTCATCAGCTTGACCGC  
TGCATCTCCGTGCTGCTCCCCGTC  
TGGTCCCAGAACCAACCGCAGCATIC  
CGCCTGGCCTACATGACCTGCTCG  
GCCGTCTGGGTCCCTGGCTTCTTC  
TTGAGCTCCCC<3'  
(SEQ ID NO:3)

**FIGURE 2B**